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North Dakota slime-moulds

Fred J. Seaver

During the fall of 1907 and spring of 1908, in connection with the study of the fungus flora of North Dakota, a number of species of slime-moulds were collected, and since there is no available literature on this particular phase of the cryptogamic flora of the state, it is thought advisable to publish the list at this time. The work above mentioned was carried on in connection with the North Dakota Agricultural College and specimens of the species reported on here are preserved in the herbarium of that institution, to which I am indebted for the privilege of carrying on the work.

With few exceptions, such as that of the disease known as the club-rot of cabbage, the slime-moulds are not known to be of any economic importance, and since they are usually small and grow in out of the way places little attention is given to them. But notwithstanding their failure to appeal to those interested in the commercial phases of the botanical science only, their strange life-history, delicate structure, and uncertain relationship with other groups of plants and animals never fail to arouse the interest of the student in the class-room and it was for this reason that most of the species reported here were first collected.

In preparing this list acknowledgments are due to Professor T. H. Macbride, of Iowa, for identification or confirmation of the identification of the species named below.

PHYSARACEAE

Cienkowskia reticulata (Albert. & Schwein.) Rost.

This is the only species of the genus and according to Professor Macbride, in the North American Slime-moulds, is very rare. The species was at first mistaken for an immature plasmodium, which it very closely resembles.

Diderma crustaceum Peck.

Common and rather attractive. The species has been collected several times in North Dakota, usually on the stems of herbaceous plants and often some distance above ground, an adaptation for spore distribution.

DIDYMIUM SQUAMULOSUM (Albert. & Schwein.) Fries.

On leaves and decaying materials of various kinds. A common species.

FULIGO OVATA (Schaeff.) Macbr.

This is a common species and one which often attains considerable size. One specimen collected on a rotten log in North Dakota was from six to eight inches in diameter and smaller specimens were found to be very common.

PHYSARUM CONTEXTUM Pers.

Several collections were made on decaying materials of various kinds in woods near Fargo.

TILMADOCHE VIRIDIS (Bull.) Sacc.

Plants collected on rotten wood. The species is not uncommon and has a wide distribution.

STEMONITACEAE

STEMONITIS MAXIMA Schwein.

Numerous specimens were collected on bark and wood of *Tilia americana*, for which substratum it shows a decided preference. Widely distributed.

STEMONITIS SMITHII Macbr.

The specimens, collected in similar localities to the preceding, were mostly larger and easily distinguished from that species by the color of the spore mass, which is ferruginous instead of purplish black. Rather common.

CRIBRARIACEAE

DICTYDIAETHALIUM PLUMBEUM (Schum.) Rost.

Several collections on decaying wood. The plants are depressed and spread out, becoming 1–2 cm. in diameter and recognized by these characters and the ochraceous color. The one species known to North America has a wide distribution.

DICTYDIUM CANCELLATUM (Batsch) Macbr.

One of the most variable species of the group, the plants being either long- or short-stemmed and very variable in color.

TUBIFERA FERRUGINOSA (Batsch) Macbr.

Collected on rotten wood and distinct in the tubiferous sporangia, which persist long after the shedding of the spores. The sporangia occur in dense masses.

LYCOGALACEAE

LYCOGALA EPIDENDRUM (Bux.) Fries.

The young phases of this plant are often met with in woods, and the bright red color of the plasmodium of the forming sporangia make them rather conspicuous objects. At maturity, however, the sporangia lose their bright color and become more nearly the color of the substratum on which they occur. Said to be the most common slime-mould in the world.

TRICHIACEAE

ARCYRIA INCARNATA Pers.

The plants of this species are often found closely crowded on rotten stumps, sometimes covering an area of several inches. At maturity the delicate threads of the capillitium push out so that the entire group of plants resembles rich flesh-colored velvet.

ARCYRIA DENUDATA (L.) Sheld.

Plants resembling those of the preceding species but distinguished by the dull reddish brown color. The species was found to be common but did not occur in such abundance as the preceding.

HEMITRICHIA CLAVATA (Pers.) Rost.

Common on rotten wood and distinguished by the stipitate, cup-shaped remains of the sporangia containing the golden yellow capillitium. The twisted rope-like appearance, which is one of the characteristics of the genus, is revealed only by microscopic examination.

HEMITRICHIA VESPARIA (Batsch) Macbr.

At once recognized in the field as distinct from the preceding by the dark reddish purple color of the sporangia. Several collections made on rotten wood. The species is common.

TRICHIA PERSIMILIS Karst.

Rather common and widely distributed in North America.

OLIGONEMA FLAVIDUM (Peck) Massee.

The sporangia of this species grow closely crowded together in little masses and the species is quite distinct in this character and the bright yellow color of the sporangia.

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